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## **The current and future role of the medical oncologist in the professional care for cancer patients: a position paper by the European Society for Medical Oncology (ESMO)**

Popescu, R A ; Schäfer, R ; Califano, R ; Eckert, R ; Coleman, R ; Douillard, J-Y ; Cervantes, A ; Casali, P G ; Sessa, C ; Van Cutsem, E ; de Vries, E ; Pavlidis, N ; Fumasoli, K ; Wörmann, B ; Samonigg, H ; Cascinu, S ; Cruz Hernández, J J ; Howard, A J ; Ciardiello, F ; Stahel, R A ; Piccart, M

**Abstract:** The number of cancer patients in Europe is rising and significant advances in basic and applied cancer research are making the provision of optimal care more challenging. The concept of cancer as a systemic, highly heterogeneous and complex disease has increased the awareness that quality cancer care should be provided by a multidisciplinary team (MDT) of highly qualified healthcare professionals. Cancer patients also have the right to benefit from medical progress by receiving optimal treatment from adequately trained and highly skilled medical professionals. Built on the highest standards of professional training and continuing medical education, medical oncology is recognised as an independent medical specialty in many European countries. Medical oncology is a core member of the MDT and offers cancer patients a comprehensive and systemic approach to treatment and care, while ensuring evidence-based, safe and cost-effective use of cancer drugs and preserving the quality of life of cancer patients through the entire 'cancer journey'. Medical oncologists are also engaged in clinical and translational research to promote innovation and new therapies and they contribute to cancer diagnosis, prevention and research, making a difference for patients in a dynamic, stimulating professional environment. Medical oncologists play an important role in shaping the future of healthcare through innovation and are also actively involved at the political level to ensure a maximum contribution of the profession to Society and to tackle future challenges. This position paper summarises the multifarious and vital contributions of medical oncology and medical oncologists to today's and tomorrow's professional cancer care.

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# The current and future role of the medical oncologist in the professional care for cancer patients: a position paper by the European Society for Medical Oncology (ESMO)

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The number of cancer patients in Europe is rising and significant advances in basic and applied cancer research are making the provision of optimal care more challenging. The concept of cancer as a systemic, highly heterogeneous and complex disease has increased the awareness that quality cancer care should be provided by a multidisciplinary team (MDT) of highly qualified healthcare professionals. Cancer patients also have the right to benefit from medical progress by receiving optimal treatment from adequately trained and highly skilled medical professionals. Built on the highest standards of professional training and continuing medical education, medical oncology is recognised as an independent medical specialty in many European countries. Medical oncology is a core member of the MDT and offers cancer patients a comprehensive and systemic approach to treatment and care, while ensuring evidence-based, safe and cost-effective use of cancer drugs and preserving the quality of life of cancer patients through the entire 'cancer journey'. Medical oncologists are also engaged in clinical and translational research to promote innovation and new therapies and they contribute to cancer diagnosis, prevention and research, making a difference for patients in a dynamic, stimulating professional environment. Medical oncologists play an important role in shaping the future of healthcare through innovation and are also actively involved at the political level to ensure a maximum contribution of the profession to Society and to tackle future challenges. This position paper summarises the multifarious and vital contributions of medical oncology and medical oncologists to today's and tomorrow's professional cancer care.

**Key words:** medical oncology, profession, multidisciplinary team (MDT), research, diagnosis, treatment

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The number of cancer patients in Europe is rising and significant advances in basic and applied cancer research are making the provision of optimal care more challenging. The concept of cancer as a systemic, highly heterogeneous and complex disease has increased the awareness that quality cancer care should be provided by a multidisciplinary team (MDT) of highly qualified healthcare professionals. Cancer patients also have the right to benefit from medical progress by receiving optimal treatment from adequately trained and highly skilled medical professionals. This position paper summarises the multifarious and vital contributions of medical oncology and medical oncologists to today's and tomorrow's professional cancer care.

Medical oncology is a core member of the MDT and offers cancer patients a comprehensive and systemic approach to treatment and care, spanning the entire disease spectrum, including research, prevention, diagnosis, treatment, rehabilitation and supportive and palliative care, thereby complementing the skill sets of cancer specialists from other disciplines. Medical oncologists are trained in the comprehensive management of cancer patients, the safe delivery of systemic cancer treatments and the management of treatment side-effects and disease symptoms. As part of their training and clinical practice, medical oncologists frequently engage in clinical and translational research to promote innovation and new therapies.

## an independent medical specialty

Historically a subspecialty of internal medicine, and established in both North America and Europe in the 1960s, medical oncology was formally recognised in the European Union (EU) as an independent medical specialty and professional qualification in March 2011, after many years of intense discussion between ESMO, key national societies and EU Member States. The EU recognition was an important step towards ensuring harmonisation of appropriate professional qualifications and free movement of specialists across borders, promoting equal access to optimal treatment and care for all cancer patients.

In light of the diversity of health systems and the status of cancer care in Europe and around the world, but also because medical oncology has yet to be recognised as a specialty in several European countries (Figure 1), the ESMO/ASCO Recommendations for a Global Curriculum in Medical Oncology provide a set of guidelines 'to be adopted by national educational and health bodies according to the resources and conditions of their country' [2]. In this and many other fields related to the art, science, recognition and practice of medical oncology, ESMO highly encourages attempts 'to establish coherency between national standards and broader European ones' [3].

## building on the highest standards of qualification

According to the ESMO/ASCO Recommendations for a Global Curriculum in Medical Oncology, the training requirements in medical oncology are a minimum of 5 years, beginning with at least 2 years of training in internal medicine and followed by a medical oncology training programme for a minimum of 2 years

that must include full-time clinical training in the diagnosis and management of cancer patients and clinical experience of treatments across the diverse range of neoplastic diseases. Experience in cancer research for at least 1 year, including international training where appropriate, is also strongly recommended [2]. Medical oncology professionals may also sub-specialise in a specific field of care or disease area(s) that fall within their expertise.

As with other specialties, medical oncologists must participate in continuing medical education (CME) programmes, whose main objectives are 'to improve the quality of patient care, set standards of clinical competence for practice and encourage the continuing scholarship required for professional excellence over a lifetime of service' [4, 5]. Insight into the complexity of oncology and the necessity of multidisciplinary cancer care has to start at medical school and extend to continuous education in all stages of professional life. Medical oncologists play an important role in educating medical students and training young doctors in oncology. In support of this and to promote the highest standards of qualification of medical oncologists, ESMO has a multidisciplinary faculty of over 300 leading oncology experts and offers a full range of targeted information and education programmes and services, including scientific meetings and courses, publications, web portals and e-learning modules, fellowships, a CME certification and recertification programme and an annual ESMO Examination (<http://www.esmo.org/Science-Education>).

## partnering in multidisciplinary and comprehensive cancer care

Oncology MDTs are an excellent tool for combining the expertise and skills from different disciplines to develop optimal treatment plans for cancer patients. Medical oncologists work as core members of the integrated MDT and, where appropriate, can serve as the 'patient interface', while collaborating with primary care physicians, pathologists, imaging specialists, surgical oncologists, radiation oncologists, pharmacists, palliative care experts, psycho-oncologists, as well as oncology nurses and experts from other medical specialties. Medical oncologists have a special qualification in the care for the increasing number of co- and multimorbid patients and in the integration of their needs in the MDT.

The composition of the MDT depends on the local availability of qualified healthcare professionals in the region and the practice setting, but the contribution of the medical oncologist is essential to integrate all the information in the interest of the patient, regardless of the setting. Cancer patients should also have access to psychosocial, nutritional and other relevant counselling services [6]. Moreover, they should be encouraged to seek MDT review and evaluation of their case before proceeding to appropriate therapy. Medical oncology is a core element in establishing area-wide provision of cancer care in Europe and contributes to avoiding coverage gaps between urban and rural areas. In settings where regular and efficient face-to-face MDT meetings are difficult to establish, telemedicine-delivered MDTs may offer a suitable alternative [7].



**Figure 1.** Recognition of medical oncology as an independent medical specialty in Europe [1].

## ensuring evidence-based, safe and cost-effective use of cancer drugs and preserving the quality of life of cancer patients

Core competences of medical oncologists include dealing with a steadily growing number of molecular-based cancer subtypes and managing an increasing number of comorbidities and combination therapies as well as related short- and long-term side-effects. In treating cancer as a systemic disease and with the knowledge across tumour types of when to use which medication or combination therapy and at what dose, as well as when it is in the patient's best interests to stop drug treatment, medical oncologists are uniquely positioned to ensure that costly cancer medicines are used in the safest, least toxic and most cost-effective way possible. ESMO offers more than 50 regularly updated Clinical Practice Guidelines helping oncologists provide cancer patients with evidence-based and state-of-the-art treatment

options (<http://www.esmo.org/Guidelines-Practice/Clinical-Practice-Guidelines>).

Due to their comprehensive specialist training and patient-centred holistic approach to quality cancer care that aims to guide and support the patient through the entire 'cancer journey', well-trained medical oncologists are also adequately skilled in supportive, palliative and end-of-life care, as well as in providing adequate information on lifestyle and late complications for cured patients. Preserving a cancer patient's quality of life in all phases of disease and after successful treatment also includes continuously assessing the patient's physical and psychological symptoms and making sure that these problems are fully recognised and adequately addressed. Where appropriate, this is done in collaboration with experts of other medical and non-medical disciplines [8]. Medical oncology is speaking medicine. Continuous communications with patients and their relatives is a prerequisite for decisions at all stages of disease. Medical oncology is particularly suited to deliver guidance in challenging



situations. This also includes managing cancer in special life situations (cancer in the elderly, in adolescents and young adults, cancer during pregnancy, cancer in organ-transplanted patients etc.) as well as maintaining long-term relationships with cancer survivors and dealing with delayed sequelae or side-effects of systemic therapies.

## contributing to cancer diagnosis, prevention and research

The increasing availability of molecular-based therapies means that medical oncologists also have an enlarging role to play in the appropriate use of molecular and companion diagnostics, with a view to integrating these activities within tumour pathology into the clinical setting and ensuring more accurate and specific tumour characterization [9]. There is also broad consensus that medical oncology professionals can and should contribute to lessening the cancer burden in society by helping reduce the incidence of cancer (primary prevention), detecting cancer at an early stage (through screening; secondary prevention) and preventing locoregional relapse and/or metastatic disease after primary surgical or radiotherapy treatment (tertiary prevention) [10].

Working in the fast-evolving field of oncology, the active participation in clinical and translational research constitutes another key characteristic of a medical oncologist. A solid understanding of the 'proper conduct and interpretation of translational and clinical research' is a standard requirement for successful training in medical oncology [2]. Future cancer research will increasingly depend on the ability to organise innovative clinical trials via regional, national or international networks, making sure that uncommon cancers and rare subtypes of more common cancers sharing a specific molecular profile can be successfully identified and included. Adequate funding, appropriate organisational, regulatory and Information Technology (IT) infrastructures and broad public support are essential requirements for this to happen to the benefit of cancer patients.

## making a difference for patients in a dynamic, stimulating professional environment

Medical oncology is a highly demanding but also very meaningful and rewarding profession that involves close and often long-term interactions with cancer patients, with the opportunity and responsibility to have a fundamental impact on their lives. Medical oncology also offers a broad diversity of activities, including multidisciplinary collaboration and involvement in clinical and translational research. Building on an excellent education and on a position at the centre of cancer care, young medical oncologists have a wide variety of exciting professional career opportunities to choose from in public, academic, private or industry practice [11].

In clinical practice, medical oncologists are dealing with an increasing number of treatment options for a growing number of cancers and cancer patients whilst continuously striving to keep themselves and their patients abreast of the latest developments in the rapidly advancing field of oncology. At the same

time, through their involvement in research, medical oncologists are key drivers of medical innovation. Since the beginning of the chemotherapy era in the 1940s, medical oncology has contributed probably more than any other medical discipline to the development and use of novel cancer treatment options.

## shaping the future of healthcare through innovation

A better understanding of cancer biology and signalling pathways has helped to define a growing number of cancer subsets and has led to the development of targeted therapies for some cancers. The paradigm of cancer care is continuously shifting from treating a single, homogeneous and organ-based disease to confronting a highly complex, heterogeneous and constantly changing group of molecular-based diseases that can occur simultaneously or evolve in the same organ or anywhere in the body. This has a significant impact on the practice of cancer care and has promoted the medical oncology profession into a pole position for innovation in cancer medicine.

New imaging and eHealth-based technologies, molecular and companion diagnostics, multiplex testing and next-generation sequencing will increasingly allow for a better 'personalisation' of cancer care, identifying those patients who are most likely to benefit from a specific intervention while sparing them potentially high levels of toxicity and side-effects/adverse events and avoiding unnecessary treatment cost. Medical oncologists are at the core of this development and already screening for HER2 overexpression/amplification in breast cancer, RAS mutations in colorectal cancer and EGFR mutations or ALK translocation in lung cancer is becoming standard practice and exemplifies some of the progress made in the 'personalised' treatment of these three common cancers.

## actively involved at the political level

However, a lot remains to be done and future progress in 'personalised' cancer care will require not only multidisciplinary and more flexible regulatory frameworks but also powerful IT-based tools for knowledge generation, management and dissemination. By actively engaging in health and research policy at national and European levels, medical oncologists and their specialist organisations such as ESMO can contribute to making sure that all cancer patients in Europe will have equal access to novel and standard diagnostic procedures, appropriate cancer medicines and high-quality palliative care services. This lobbying should also include the provision of adequate national approval and reimbursement systems and drug supplies, including the participation of oncology experts in risk-benefit assessment of new drugs and the definition of indispensable drugs, and drive improvements and harmonisation of national policies governing the off-label use of drugs, which is common practice in oncology [12].

In this context, it is crucial to advocate for the formal recognition of medical oncology as an independent medical specialty in countries where this is still not the case, and also for the harmonisation of professional qualifications in Europe. Potential future workforce shortages are furthermore high on the political

agenda in some European countries. Other political issues include the need to further improve the environment for bench-to-bedside research and rapid, collaborative assessment through innovative (and more flexible) clinical trials of novel therapeutic interventions. ESMO is actively involved in many political initiatives at the European level and is fully committed to synthesising national experience and professional concerns into 'common' policy recommendations.

## contributing to society and ready for the future

Due to increasing life expectancy, more members of our society will be affected by cancer during their lifetimes. Faced with an increasing number of cancer patients, medical oncologists, in partnership with professionals from other disciplines, are working very hard to continuously provide evidence-based quality cancer care while striving to further accelerate medical progress for the benefit of each individual patient. Where cure is not possible, the aim is to turn cancer into a 'chronic' disease with a tumour burden as low as possible, allowing many patients to lead full and active lives.

Oncology is going to change dramatically over the coming years and new IT and health technologies will further increase the ability to tailor cancer therapies to specific molecular patient profiles and to provide a more 'personalised' cancer care. To confront the growing cancer burden in Europe and worldwide, greater strategic and financial investments are necessary in the fields of cancer prevention, screening, research, health technology development (and availability) and multidisciplinary care as well as in knowledge dissemination to professionals and patients. In working together with all disciplines involved in oncology, the specialty of medical oncology supported by ESMO and the many national societies are well positioned to accept these challenges and make sure that cancer patients receive the best treatment possible from highly skilled, well-trained and continuously educated top-quality oncology professionals. This will benefit cancer patients and the society as a whole.

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## disclosure

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